ROACHES RUN CULVERT
(Mt. Vernon Memorial Highway Bridge No. 5)
George Washington Memorial Parkway, spanning Roaches Run
Arlington Vicinity
Arlington County
Virginia

HAER No. VA-91

HAER
VA
7-ARLV,
10-

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

PHOTOGRAPHS

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Department of the Interior
P.O. Box 37127
Washington, D.C. 20013-7127

HAER
VA
M-ARL.V,
10-

HISTORIC AMERICAN ENGINEERING RECORD

ROACHES RUN BRIDGE
(Mount Vernon Memorial Highway Bridge No. 5)
HAER No. VA-91

I. INTRODUCTION

Location:	Station 102+98 of the Mount Vernon Memorial Highway (MVMH). George Washington Memorial Parkway (GWMP) milepost 5.22; 5.4 north of Interstate-495. The bridge carries the parkway over Roaches Run at Gravelly Point at the northern border of National Airport in Arlington County, VA.
Date of Construction:	1930-1932.
Type:	Reinforced concrete box bridge.
Designer:	Bureau of Public Roads, Bridge Division. Gilmore D. Clarke, Consulting Landscape Architect. J.V. McNary, Engineer-in-Charge. C.D. Geisler, Chief Designer.
Contractor:	Merritt-Chapman and Scott Corporation, New York.
Present Owner:	National Capital Region, National Park Service.
Present Use:	Carries six lanes of non-commercial vehicular traffic across Roaches Run.
Significance:	Roaches Run Bridge is one of twelve original bridge structures on the Mount Vernon Memorial Highway (MVMH).
Project Information:	Documentation of the George Washington Memorial Parkway and Clara Barton Parkway was undertaken as a multi-year project by the Historic American Buildings Survey and the Historic American Engineering Record (HABS/HAER), a combined division of the National Park Service, Robert Kapsch, Chief. The project was sponsored by the Park Roads Program of the National Park Service, John Gingles, Deputy Chief, Engineering and Safety Services Division. The Project Supervisor was Sara Amy Leach, HABS Historian. Bridge reports were prepared by Elizabeth M. Nolin (1988); Michael P. Kucher (University of Delaware, 1993); and Jennifer P. Wentzien (University of Washington, 1994). HABS Report No. VA-69 prepared by Timothy Davis (University of Texas) provides an overview history of the entire parkway project. Jack E. Boucher and Jet Lowe produced the large-format photographs. The Washington-based summer 1994 documentation team was headed by landscape architect Tim Mackey (Harvard University, Graduate School of Design).

II. HISTORY

The Mount Vernon Memorial Highway (MVMH) was completed in 1932 and became the first segment of the George Washington Memorial Parkway (GWMP). Roaches Run Bridge is one of twelve bridge structures along the original MVMH.[1] Bridge delineations included in a January 1927 report on alternate routes proposes neoclassical detailing reminiscent of plans for Arlington Memorial Bridge. A proposed elevation of Roaches Run Bridge shows a formal railing and a slightly arched span which is emphasized by the use of radiating ringstones against the horizontal masonry coursing.[2] A 1928 report from the Committee on Roads proposed the following with respect to bridges along the MVMH.

> "It is planned to construct all bridges along the route to carry a 60-foot pavement with 5-foot sidewalks on each side. These structures would be built as reinforced concrete arches, faced with granite to enhance the appearance of the structures and to conform with the memorial character of the boulevard. The railings will be granite and of the same general details and appearance as those proposed for the Arlington Memorial Bridge. Eight principal structures will be required.[3]

As late as January 1929, the "Report on Alternative Routes for the Proposed Memorial Highway," proposed a concrete structure "encased in granite.... [and] "rock-faced" with appropriate copings and railing of cut granite.[4]"

The approach to the artistic design of parkway structures shifts after the BPR begins consultations with engineers and architects responsible for New York's Westchester County Parks and Parkways. From

---

[1]The Federal Highway Administration defines uses a minimum span of 20' as the criterion distinguishing a bridge from a culvert. Another defining characteristic of culverts is that they are fully enclosed, including the bottom. Therefore, though referred to as "The Bridge at Roaches Run," in documents from the time of its construction, such as the "Final Report," the structure carrying the GWMP over Roaches Run is technically not a bridge, and thus not on the FHWA's roster of bridges along the GWMP scheduled for regular inspection.

[2]US Department of Agriculture, Bureau of Public Roads, "Mount Vernon Boulevard Bridge over Roaches Run," delineation L-925, January 4, 1927. Record Group 30, National Archives at College Park, MD.

[3]Committee on Roads, U.S. House of Representatives, "Memorial Highway from Washington City to Mount Vernon Via the Arlington Memorial Bridge," Report No. 1065 to accompany H.R. 4625, March 28, 1928.

[4]U.S. Bureau of Public Roads, Department of Agriculture, "Report on Alternate Routes for the Proposed Memorial Highway," January 1929, p.23.

1928-1930 Gilmore Clarke, a landscape architect with extensive experience on the Westchester system is hired to consult on the design of bridge structures. Clarke designs stone facings for the reinforced concrete structures which emphasize the massiveness of arch construction. Stone facing is specified as a locally quarried mica schist with granite highlights at the copings, corner quoins and ringstones. The designs are similar to other park and parkway structures of the era.

Technical Description

Roaches Run Bridge is a reinforced concrete box structure supported on continuous footings. The box structure provides a 16' wide horizontal clearance and 9'-4 vertical clearance for the waterway. Plans show a sloped earth surfaces separating a equestrian path from the parapet and roadway. These items were eliminated in the bridge as it was built. The original structure was 60' long supporting four lanes. In 1961 the roadway was widened and an additional 40' were added (see alterations).

The foundation is comprised of piles spaced at approximately 2'-6" and supporting continuous reinforced concrete footings. The footings run 56' along either side of the roadway and support 17'-3" long wing walls and the box structure. Wing walls were designed as gravity-type retaining walls for the roadway approach. The body of the structure was designed as a reinforced concrete box, resting on earth and spanning between footings. The outside of the wing walls and the box structure is faced with stone masonry and dimensioned masonry ringstones, corner quoins, and copings. Tony Kennedy of Philadelphia and Louis Hiller of Statesville, North Carolina were the masonry subcontractors for all of the cut stone and rubble masonry work on the original MVMH.[5] Final cost on the bridge as reported by J.V. McNary, Engineer-in-Charge was $36,941.25[6]

Alterations

The structure was extended in 1969 as part of a project widening the MVMH between the R.F. & P. Railroad and National Airport. The bridge was widened 40' to the east. The existing stone facing was removed prior to construction. Presently the only element of the east elevation which is stone faced is the arch ring.

---

[5]U.S. Bureau of Public Roads, "Final Construction Report, Unit III, Bridges," 1932, p. 90.

[6] Ibid., p. 93.

III. SOURCES

Bureau of Public Roads. Construction Photographs of Mount Vernon Memorial Highway. 1930-32. Record Group 30-N, Boxes 241, 242. Still Pictures Division, National Archives and Records Administration, Archives II, College Park, Maryland.

Bridge Inspection Office, Eastern Federal Lands Highway Division, Federal Highway Administration, Sterling, Virginia. Microfiche drawings for extant bridge are filed by name of bridge, and some are mixed into a general file of 135 drawings for the parkway project. The Roaches Run Drawings are in the latter group. The office also maintains current and past bridge inspection reports for all parkway bridges.

James, E. W. "Parkway Features of Interest to the Highway Engineer." Public Roads: A Journal of Highway Research 10:2 (April 1929): 21-27, 32.

U.S. Department of Agriculture, Bureau of Public Roads, "Mount Vernon Memorial Highway Final Construction Report, Unit III, Bridges," 1932; report prepared by J.V. McNary; Box 1399; 420 General Virginia - 1926-29; Bureau of Public Roads Classified Central File 1912-1950, Record Group 30; National Archives at College Park, MD.

This bound but unpublished typescript includes an overview and a detailed account of the construction of each bridge. It also includes about 60 photographs of bridges under construction and completed.

U.S. Department of Agriculture, Bureau of Public Roads, "Report on Alternative Routes for the Mount Vernon Memorial Highway 1929 Report on Senate Bill 1369"; Box 1400; 420 Reports, Mount Vernon, Virginia 1925-40; Bureau of Public Roads Classified Central File 1912-1950, Record Group 30; National Archives at College Park, MD.

U.S. Department of Agriculture. "Mount Vernon Memorial Highway, Drawings for Bridge over Roaches Run." Part of a total set of drawings on the Mount Vernon Memorial Highway, December, 1929. Located at the National Capital Region Park Headquarter, National Park Service, Washington D.C.

U.S. Department of the Interior, Historic American Buildings Survey (HABS), No. VA-69, "George Washington Memorial Parkway," 1994. Prints and Photographs Division, Library of Congress, Washington D.C.

Vertical file, "Parkways," at the Department of Transportation Library has many clippings from the Washington Star about the Mount Vernon Memorial Highway during the late 1920s and early 1930s.